

Var. *zonata*, nov.

Ornamented with a wide, ill-defined, and more or less interrupted ochreous-brown zone, reaching from near the suture to below the periphery.

Hab. Same as the type.

This handsome new species belongs to the group of *E. quærita*, Desh. It is, however, much smaller, much more elevated in the spire, thinner in texture, more shining, and has a narrower umbilicus. The dark zone of the variety is evidently the result of the diffused colouring-matter of three bands—one peripheral, one supra- and one infraperipheral—which are faintly visible on holding the shell to the light.

LIX.—Notes on the Neuropterous Family Nemopteridæ.

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THIRTY-THREE species of this small but very interesting family are enumerated in the present paper, of which the Natural History Museum possesses fourteen, which I have distinguished by an asterisk (*). They are remarkable for the great length of the hind wings, which take the form of long slender tails.

I have given the synonymy with tolerable completeness, as the references are very scattered, and many of them occur in old books not always easy of access.

It is somewhat remarkable that, as in the Ascalaphidæ, the brightly coloured species are nearly all Mediterranean, while those with hyaline fore wings mostly occur elsewhere.

Genus I. NEMOPTERA.

Nemoptera, Latr. Hist. Nat. Crust. Ins. iii. p. 296 (1802), xiii. p. 20 (1805); Olivier, Enc. Méth. viii. p. 173 (1811); Klug, Abhandl. Akad. Berlin, 1836, p. 92; Walker, List Neur. Ins. ii. p. 470 (1858); Hagen, Stett. ent. Zeit. xxvii. pp. 374, 451 (1866); Proc. Bost. Soc. Nat. Hist. xxiii. p. 250 (1886).

Nemopteryx, Leach, Zool. Misc. ii. p. 74 (1815).

Physapus, Leach, Edinb. Encycl. ix. p. 137 (1815).

Nematoptera, Burm. Handb. Ent. ii. p. 984 (1840); Westwood, P. Z. S. 1841, p. 9; Ann. & Mag. Nat. Hist. viii. p. 376 (1842).

The types of this genus are *Nemoptera coa*, L., as figured by Coquebert and Latreille. The latter figure has been referred to *N. bipennis*, but seems to possess the distinctive characters of *N. coa*.

*1. *Nemoptera sinuata*.

Nemoptera sinuata, Oliv. Enc. Méth. viii. p. 178. n. 2 (1811); Ramb. Ins. Névr. p. 335 (1842); Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 250 (1886).

|| *Panorpa coa*, Borkhausen, Scriba, Beitr. Ins. ii. p. 155, pl. xi. fig. 1 (1791).

Nemoptera coa, pt., Latr. Hist. Nat. Crust. Ins. xiii. p. 20 (1802); pt., Klug, Abh. Akad. Berl. 1836, p. 92. n. 1.

|| *Nematoptera coa*, pt., Burm. Handb. Ent. ii. p. 987. n. 9 (1840).

Nematoptera petiveri, Westw. P. Z. S. 1841, p. 9. n. 1; Ann. & Mag. Nat. Hist. viii. p. 376. n. 1 (1842).

Hab. Turkey, Asia Minor, Syria.

This species differs from the others in the wings being much less mottled.

*2. *Nemoptera bipennis*.

Panorpa bipennis, Illiger, Ahrens, Faun. Eur. fasc. i. fig. 16 (1812).

Nematoptera bipennis, Westwood, Proc. Zool. Soc. Lond. 1841, p. 10. n. 3; Ann. & Mag. Nat. Hist. viii. p. 377. n. 3 (1842).

Nemoptera bipennis, Hagen, Proc. Bost. Soc. Nat. Hist. xxiii. p. 253. n. 4 (1888).

Nemopteryx lusitanica, Leach, Zool. Misc. ii. p. 74, pl. lxxxv. fig. 1 (1815).

Nemoptera lusitanica, Klug, Abh. Akad. Berl. 1836, p. 93. n. 3; Rambur, Faune Andal. ii. pl. ix. fig. 1 (1842); McLachl. Proc. Ent. Soc. Lond. 1886, p. lviii.

|| *Nematoptera lusitanica*, Burmeister, Handb. Ent. ii. p. 907. n. 8 (1840).

Hab. Spain, Portugal.

I have not seen Ahrens's figure.

*3. *Nemoptera ægyptiaca*.

—, Savigny, Descr. Ins. Neur. pl. ii. fig. 15.

Nemoptera ægyptiaca, Rambur, Ins. Névr. p. 334 (1842); Hagen, Proc. Bost. Soc. Nat. Hist. xxiii. p. 252 (1886).

Nemoptera hebraica, Westwood, Thes. Ent. Oxon. p. 178, pl. xxiii. fig. 5 (1874).

Hab. Egypt, Syria, Palestine.

*4. *Nemoptera coa*.

Ephemer a coa, Hasselquist, Iter Palæst. p. 423. n. 110 (1757).

Panorpa coa, Linné, Syst. Nat. (ed. x.) i. p. 552. n. 3 (1758); Coquebert, Icones, p. 15, pl. iii. fig. 3 (1799).

Nemoptera coa, Oliv. Enc. Méth. viii. p. 178. n. 1 (1799); Walker, List Neur. Ins. B. M. ii. p. 470. n. 1 (1858); Ramb. Ins. Névr. p. 333, pl. iii. fig. 3 (1842); Hagen, Proc. Bost. Soc. Nat. Hist. xxiii. p. 253. n. 3 (1880).

Nematoptera coa, pt., Burm. Abhandl. Akad. Berl. 1836, p. 92. n. 1.

Nematoptera Petiveri, pt., Westwood, Proc. Zool. Soc. Lond. 1841, p. 9. n. 1; Ann. & Mag. Nat. Hist. viii. p. 376. n. 1.

Nematoptera Coqueberti, Westwood, ll. cc. p. 9. n. 2 p. 376. n. 2.

Hab. S. Europe, N. Africa.

Genus II. HALTER.

Halter, Ramb. Ins. Névr. p. 335 (1842).

The time has hardly yet arrived for subdividing this genus, to which we may provisionally refer all the transparent-winged species with long beaks. The species are divisible into several very distinct groups, most of which will probably hereafter rank as genera.

Section 1.

Hind wings linear, with a long dark band before the extremity.

*5. *Halter africana*.

Nemopteryx africana, Leach, Zool. Misc. ii. p. 74, pl. lxxxv. fig. 1 (1815).

Nemoptera africana, Gray, Griffith's Anim. Kingd. xv. p. 324, pl. cv. fig. 4; Westwood, Proc. Ent. Soc. Lond. i. p. lxxv (1836); Walker, List Neur. Ins. ii. p. 475. n. 14 (1853); Hagen, Proc. Bost. Soc. Nat. Hist. xxiii. p. 262. n. 10 (1888).

Nematoptera africana, Westwood, Proc. Zool. Soc. Lond. 1841, p. 12. n. 9; Ann. & Mag. Nat. Hist. viii. p. 379. n. 9 (1842).

Nemoptera bacillaris, Klug, Abhandl. Akad. Berl. 1836, p. 95, fig. 2.

Nematoptera bacillaris, Westwood, *ll. cc.* p. 12. n. 10, p. 379. n. 10.

Nemoptera halterata, pt., Klug, *l. c.* p. 94. n. 8 (1836).

Nematoptera latipennis, Burm. Handb. Ent. ii. p. 986. n. 5 (1840).

Nematoptera latipennis, Westwood, *ll. cc.* p. 12. n. 11, p. 379. n. 11.

Hab. S. Africa.

The type is in the British Museum.

6. *Halter remifera*.

Nemoptera remifera, Westwood, Thes. Ent. Oxon. p. 179, pl. xxxiii. fig. 9 (1874); Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 265. n. 11 (1888).

Hab. Cape.

7. *Halter costalis*.

Nemoptera costalis, Westwood, Proc. Ent. Soc. Lond. i. p. lxxv (1836); Thes. Ent. Oxon. p. 179, pl. xxxiii. fig. 6 (1874).

Nematoptera costalis, Westw. Proc. Zool. Soc. Lond. 1841, p. 12. n. 13; Ann. & Mag. Nat. Hist. viii. p. 379. n. 13 (1842).

♂. *Nemoptera angulata*, Westwood, Proc. Ent. Soc. Lond. i. p. lxxv (1836); Duncan, Jardine's Nat. Libr., Intr. Ent. p. 293, pl. xxvii. fig. 3 (1840); Hagen, Proc. Bost. Soc. Nat. Hist. xxiii. p. 259. n. 9 (1888).

Nematoptera angulata, Westwood, Proc. Zool. Soc. Lond. 1841, p. 12. n. 12; Ann. & Mag. Nat. Hist. viii. p. 379. n. 12 (1842).

Nemoptera angula, Walk. List Neur. Ins. ii. p. 475. n. 16 (1853).

Hab. Cape.

As the name *costalis* stands before *angulata* in the Proc. Ent. Soc., the former must stand for the species if the two names are correctly placed together as sexes, as appears probable.

8. *Halter biremis*.

Nemoptera biremis, Kolbe, SB. Ges. naturf. Fr. Berlin, 1900, p. 16.

Hab. Cape.

Section 2.

Hind wings more or less expanded towards the extremity (once, twice, or thrice), and with a broad dark band towards the base of the expanded part of the wings.

9. *Halter allostigma*.

Nemoptera allostigma, Westwood, Thes. Ent. Oxon. p. 179, pl. xxxiii. fig. 7 (1874).

Hab. Zululand.

*10. *Halter halterata*.

Panorpa halterata, Forskål, Descr. Anim. p. 97 (1775); Icones, pl. xxv. fig. E (1776).

Nemoptera halterata, De Selys, Ann. Soc. Ent. Belg. x. pp. 254, 255, pl. ii. figs. 5, 6 (1887); Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 257. n. 8 (1887).

Nemoptera pallida, Olivier, Enc. Méth. viii. p. 179. n. 5 (1811); Rambur, Ins. Névr. p. 335, pl. viii. fig. 4 (1842).

Nematoptera pallida, Westwood, Proc. Zool. Soc. Lond. 1841, p. 11. n. 8; Ann. & Mag. Nat. Hist. viii. p. 378. n. 8.

Nematoptera Forskulli, Westwood, ll. cc. p. 11. n. 6, p. 378. n. 6.

Hab. Arabia, Baghdad.

This is the type of the genus, *N. pallida*, Olivier, being the first of four species referred by Rambur to *Halter*, and, moreover, being figured. The specimen in the British Museum is from Mount Sinai. Several other species have been wrongly called *N. halterata* by various authors, whose references I have not always quoted.

*11. *Halter tipularia*.

Nemoptera tipularia, Westwood, Thes. Ent. Oxon. p. 179, pl. xxxiii. fig. 10 (1874).

Hab. Damaraland.

*12. *Halter Bettoni*, sp. n.*Dimensions*.—

	♂.	♀.
Long. corp.	21 mm.	15 mm.
Exp. al. ant.	48 „	46 „
Long. al. post. . . (circa)	50 „	54 „

Body reddish brown, beak (except at the tip) and sides and under surface of thorax testaceous; abdomen slender, slightly hairy towards the extremity. Fore wings hyaline, with brown nervures, the costal nervure and the second median nervure spotted with paler in the spaces between the transverse nervures. Subcostal nervure slightly reddish. Towards the extremity of the wing is a dark pterostigma, filling up the narrow oblong space between two approximate nervures, but not extending quite to the costa. Hind wings very long and slender, white, with a yellowish central line, from which numerous small blackish T-shaped markings diverge asymmetrically on each side. The extremity is broadly trifid, with a reddish-brown band extending over the first expansion, except at the base, and the basal portion of the second; the terminal part of the wing snow-white.

Hab. Maragoja Fundi, Tara Desert, British East Africa; a pair collected by Mr. C. S. Betton on March 3, 1897.

A very distinct species, somewhat allied to the West-African *H. imperatrix*, Westwood.

The costal nervures vary in number from 33 to 37 before the pterostigma on the fore wings, and are not uniform on the two sides, showing that this is a variable character.

*13. *Halter imperatrix*.

Nemoptera imperatrix, Westwood, Trans. Ent. Soc. Lond. (3) v. p. 507 (1867); Thes. Ent. Oxon. p. 178, pl. xxxiii. fig. 8 (1874).

Hab. W. Africa.

14. *Halter remipennis*.

Nemoptera remipennis, Kolbe, SB. Ges. naturf. Fr. Berlin, 1900, p. 13.

Hab. Nyassa, Usambara.

15. *Halter togonica*.

Nemoptera togonica, Kolbe, SB. Ges. naturf. Fr. Berlin, 1900, p. 15.

Hab. Togo, Upper Guinea.

Section 3.

Hind wings long, more or less expanded two or three times towards the tips, and with two blackish bands on the expanded portion.

The British Museum possesses no species belonging to this section, to which I refer *H. gracilis* with a little doubt.

16. *Halter gracilis*.

Nemoptera gracilis, Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 255 (1886).

Hab. Cape.

17. *Halter barbara*.

Nemoptera barbara, Klug, Abhandl. Akad. Berl. 1836, p. 94. n. 5; Selys, Ann. Soc. Ent. Belg. x. p. 254, pl. ii. figs. 3, 4 (1887); Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 255. n. 6 (1886).

Nematoptera barbara, Westw. Proc. Zool. Soc. Lond. 1841, p. 11. n. 7; Ann. & Mag. Nat. Hist. viii. p. 578. n. 7.

|| *Panorpa halterata*, Fabricius, Ent. Syst., Suppl. p. 208. n. 8 (1798).

Nemoptera algerica, Rambur, Ins. Névr. p. 336 (1842); Luc. Expl. Alg. iii. p. 139, pl. iii. fig. 3 (1849).

Hab. Algeria.

18. *Halter Ledereri*.

Nemoptera Ledereri, Selys, Ann. Soc. Ent. Belg. x. p. 254, pl. ii. figs. 1, 2 (1887); Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 254. n. 5 (1886).

Hab. Asia Minor.

Section 4.

Hind wings less than twice as long as the fore wings, with two large black dilatations and a short white terminal process.

19. *Halter dilatata*.

Nemoptera dilatata, Klug, Abhandl. Akad. Berl. 1836, p. 94. n. 6, fig. 1.

Nematoptera dilatata, Westw. Proc. Zool. Soc. Lond. 1841, p. 11. n. 5; Ann. & Mag. Nat. Hist. viii. p. 378. n. 5 (1842).

Hab. S. Africa.

Section 5.

Hind wings less than twice as long as the fore wings, with a wide dark dilatation towards the extremity, which is formed by a broad lobe, rounded at the extremity, white at the base and dark beyond.

*20. *Halter extensa*.

Nemoptera extensa, Oliv. Enc. Méth. viii. p. 178. n. 4 (1811); Guér. Ann. & Mag. N. Hist. Ser. 7. Vol. vi. 31

Icon. R. Anim., Ins. p. 384, pl. lxi. fig. 1 (1829-1844) ; Klug, Abhandl. Akad. Berl. 1836, p. 93. n. 4 ; Ramb. Ins. Névr. p. 336 (1842).
Nematoptera extensa, Westwood, Proc. Zool. Soc. Lond. 1841, p. 11. n. 4 ; Ann. & Mag. Nat. Hist. viii. p. 397. n. 4 (1842).

Hab. Baghdad.

Genus III. CHASMOPTERA, gen. nov.

Antennæ very thick ; beak prominent ; hind wings only one and a half times as long as the fore wings ; fore wings hyaline, except a slightly marked pterostigma ; hind wings wholly dark except at the extremity and on the median line in the middle of the principal lobe, which expands very broadly on each side, occupying the third quarter of the wing ; at the base it expands gradually, and at the extremity it is truncated, the angles, however, being rounded off ; from the central line a number of bifid nervures diverge on each side. This is followed by a second smaller lobe on each side, and a broad terminal projection, white on the apical half.

*21. *Chasmoptera Huttii*.

Nemoptera Huttii, Westwood, Proc. Ent. Soc. Lond. v. p. 27, pl. viii. fig. 1 (1847) ; Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 265. n. 12 (1888).

Hab. Australia (Perth, Swan River).

Genus IV. SAVIGNIELLA, n. n.

|| *Brachystoma*, Rambur (nec Meigen), Ins. Névr. p. 337 (1842).

Mouth not produced into a beak ; hind wings long, linear, scarcely enlarged towards the extremity.

22. *SavignIELLA costata*.

—, Savigny, Descr. Egypte, Neur. pl. ii. fig. 14 (details).

|| *Nemoptera halterata*, Oliv. (nec Forsk.) Encycl. Méth. viii. p. 178 (1811).

Nemoptera costata, Klug, Abhandl. Akad. Berl. 1836, p. 94. n. 7.

Nemoptera Olivieri, Rambur, Ins. Névr. p. 337 (1842).

Nematoptera Olivieri, Westwood, Proc. Zool. Soc. Lond. 1841, p. 13. n. 14 ; Ann. & Mag. Nat. Hist. viii. p. 379. n. 14 (1842).

Hab. Alexandria.

Hagen considers Savigny's fig. 13, usually referred to this species, to represent *Halter Ledereri*, Selys.

Genus V. STENORRHACHUS.

Stenorrhachus, M'Lachlan, Proc. Ent. Soc. Lond. 1886, p. lviii.
 || *Stenotænia*, M'Lachlan (nec Gervais), Trans. Ent. Soc. Lond. 1885,
 p. 376.

23. *Stenorrhachus Walkeri*.

Stenotænia Walkeri, M'Lachl. Trans. Ent. Soc. Lond. 1885, p. 377.

Hab. Chili.

The only described American representative of this family.

Genus VI. CROCE.

Croce, M'Lachlan, Trans. Ent. Soc. Lond. 1885, p. 378.

*24. *Croce filipennis*.

Nemoptera filipennis, Westwood, Proc. Zool. Soc. Lond. 1841, p. 13.
 n. 19; Ann. & Mag. Nat. Hist. viii. p. 380. n. 19 (1842).
Nemoptera filipennis, Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 267.
 n. 13 (1888).

Hab. N. India.

The Natural History Museum possesses three specimens of what may possibly be a second Indian species, the hind wings being apparently much narrower than in the typical form; but this may perhaps be due merely to the pubescence being more closely appressed to the shaft of the wing.

*25. *Croce aristata*.

Nemoptera aristata, Klug, Abhandl. Akad. Berl. 1836, p. 96. n. 13.
Nemoptera aristata, Westwood, Proc. Zool. Soc. Lond. 1841, p. 13.
 n. 17; Ann. & Mag. Nat. Hist. viii. p. 380. n. 17 (1842).

Hab. Ambukohl (*Klug*); Thebes (B. M., presented by A. Carter, Esq.).

26. *Croce (?) alba*.

Nemoptera alba, Oliv. Enc. Méth. viii. p. 179. n. 6 (1811); Klug,
 Abhandl. Akad. Berl. 1836, p. 96. n. 12; Rambur, Ins. Névr. p. 336.
 n. 6 (1842).
Nemoptera alba, Westw. Proc. Zool. Soc. Lond. 1841, p. 13. n. 18;
 Ann. & Mag. Nat. Hist. viii. p. 380. n. 18.

Hab. Baghdad.

Found in abundance in houses in the evening towards the end of May by Olivier, and described by him; but no further information about the species has been given by any author, and it was apparently unknown in nature even to Rambur.

27. *Croce pusilla*.

Nemoptera pusilla, Taschenberg, Zeitschr. f. Naturw. lvi. p. 183 (1884).

Nemoptera pusilla, Hagen, Proc. Boston Soc. Nat. Hist. xxiii. p. 268. n. 14 (1888).

Hab. Socotra.

*28. *Croce setacea*.

Nemoptera setacea, Klug, Abhandl. Akad. Berl. 1836, p. 95. n. 10, fig. 3.

Nemoptera setacea, Westwood, Proc. Zool. Soc. Lond. 1841, p. 13. n. 15; Ann. & Mag. Nat. Hist. viii. p. 379. n. 18 (1842).

Hab. S. Africa.

29. *Croce capillaris*.

Nemoptera capillaris, Klug, Abhandl. Akad. Berl. 1836, p. 96, fig. 4.

Nemoptera capillaris, Westwood, Proc. Zool. Soc. Lond. 1841, p. 13. n. 16; Ann. & Mag. Nat. Hist. viii. p. 379. n. 16 (1842).

Hab. Arabia Felix.

30. *Croce ephemera*.

Nemoptera (Croce) ephemera, Gerstaecker, Mitth. Ver. Vorpomm. xxv. p. 152 (1893).

Hab. Mesopotamia.

31. *Croce Baudii*.

Nemoptera (Croce) Baudii, Griffini, Boll. Mus. Torino, x. no. 214, p. 2 (1895).

Hab. Cyprus.

32. *Croce Chobauti*.

Croce Chobauti, McLachlan, Bull. Soc. Ent. France, 1898, p. 169.

Hab. Algeria.

33. *Croce damaræ*.

Croce damaræ, McLachlan, Bull. Soc. Ent. France, 1898, p. 170.

Hab. Damaraland.